

IN THE CLAIMS

Please cancel claim 2 without prejudice or disclaimer.

Please amend claims 1 and 30 by replacing these claims with the following amended claims, with a marked-up copy of the claims being attached in the Appendix to the Office Action.

1. (Thrice Amended) A reforming apparatus comprising an integrated structure of three separate units, comprising:

a raw material reforming unit for steam-reforming a raw material to be reformed and producing a reformed gas containing hydrogen as a principal component, including a heat source that generates heat by combustion of a fuel gas, operable to directly obtain heat for the steam reformation reaction from said heat source;

a shift reaction unit for decreasing, by water-gas-shift reaction, CO contained in the reformed gas produced in said raw material reforming unit; and

a CO oxidation unit for further decreasing, by oxidation, CO contained in reformed gas treated in said shift reaction unit;

said raw material reforming unit and said shift reaction unit contain different catalysts, and said shift reaction unit and said CO oxidation unit being arranged in a manner that said shift reaction unit and said CO oxidation unit can be indirectly heated by heat transfer from the heat source of said raw material reforming unit, and further said CO oxidation unit including an outside surface, and being arranged to obtain atmospheric cooling of the outside surface; and

81 said raw material reforming unit, said shift reaction unit and said CO oxidization unit are concentrically arranged relative to each other with said CO oxidization unit placed on an outer peripheral side of the reforming apparatus.

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30. (Four Times Amended) A reforming apparatus comprising an integrated structure of four separate units, which comprises:

a combustion unit for generating heat by combustion of a fuel gas;

a raw material reforming reaction unit for steam-reforming a raw material and producing a reformed gas containing hydrogen as a principal component;

52 a shift reaction unit for decreasing CO contained in the reformed gas, that was produced in said raw material reforming unit, by water-gas-shift reaction;

a CO oxidation unit for further decreasing CO contained in the resultant reformed gas, that was treated in said shift reaction unit, by oxidation;

said reforming reaction unit and said shift reaction unit containing different catalysts, said shift reaction unit and said CO oxidation unit being indirectly heated by heat transfer from the heat source of said raw material reforming unit, said CO oxidation unit being positioned outside said reforming reaction unit, and said reforming reaction unit being directly heated by said combustion unit so that the temperature in said reforming reaction unit is controlled in the range of 400 to 1000°C, said shift reaction unit being indirectly heated by heat transfer from said combustion unit so that the temperature in said shift reaction unit is controlled in the range of 200 to 350°C, said CO